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Common ground

A new agreement by space station partners on life sciences hardware is an important first. Story on Page 3.

Cinco de Mayo

High school students entertain JSC lunch crowd this month. Photo on Page 4.

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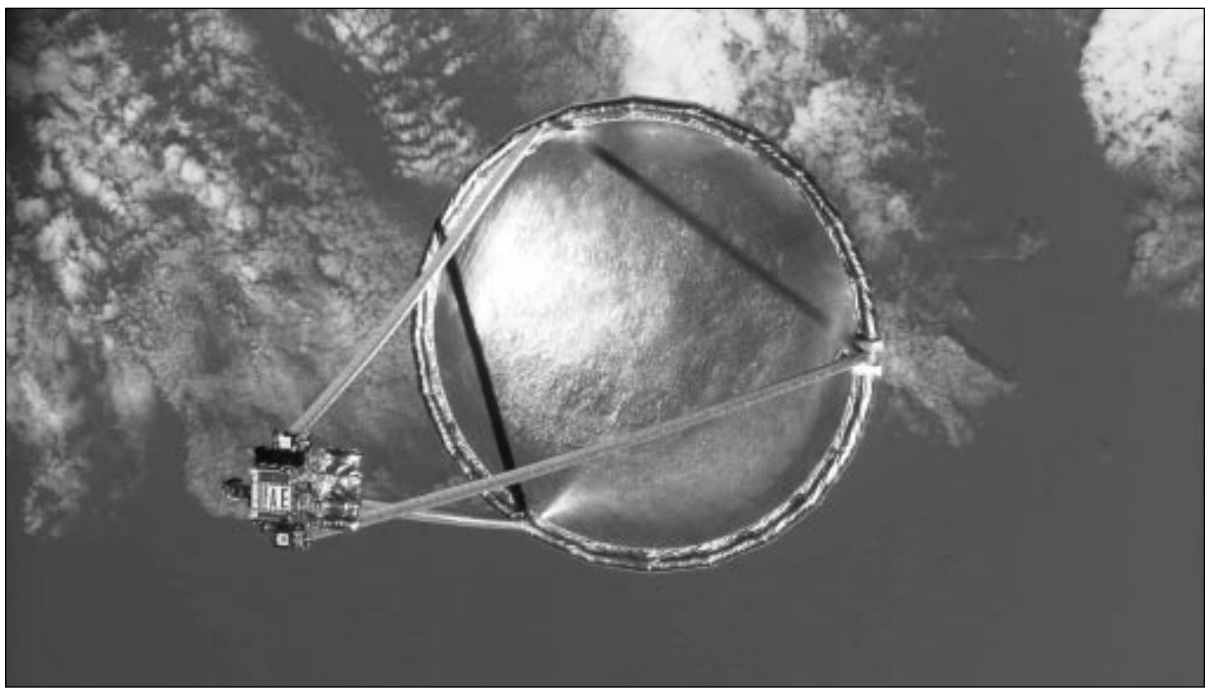

NASA Photo

Following its deployment from *Endeavour* on Monday, Spartan deploys the Inflatable Antenna Experiment. The inflation of the tennis court-sized antenna took about five minutes. After an hour and a half, the antenna was jettisoned from Spartan and reentered Earth's atmosphere Wednesday.

Endeavour crew accomplishes triple play job

By Karen Schmidt

Endeavour's crew accomplished a triple play of deployment, retrieval and rendezvous this week as the six astronauts met many of their STS-77 objectives more than halfway through their mission.

Commander John Casper and Pilot Curt Brown are performing some of the most precise flying to date to keep tabs on the Satellite Test Unit. Overall, three rendezvous will be performed to conduct experiments on the Passive Aerodynamically Stabilized Magnetically Damped Satellite, or PAMS.

PAMS was released Wednesday morning as Casper and Brown maneuvered the shuttle and Mission Specialists Mario Runco and Dan Bursch performed a variety of experiments.

"Our job on the shuttle is to rendezvous with the satellite three different times and to take measurements on how the satellite is stabilizing," Casper said during a preflight interview. "We'll track it four to eight hours at a time depending on the rendezvous and record that data on what the attitude is, how it's stabilizing, whether it's damping out or becoming less. Our challenge is to do this using minimum propellant or to use the propellant that's available onboard the shuttle—a big job, a big challenge in itself."

Endeavour will rendezvous with the STU over the weekend to continue to collect data from the satellite.

At the beginning of the week, Mission Specialist Mario Runco successfully deployed and retrieved the Spartan satellite. Spartan was released at 6:29 a.m. CDT for its 24-hour free flight from *Endeavour*. The Inflatable Antenna Experiment, or IAE, was inflated to its full 92 feet by 50 feet length in about five minutes. Spartan collected a variety of data for an hour and a half before the antenna was jettisoned from the free-flying satellite.

Early Tuesday morning ground controllers at JSC were able to view the antenna as it passed over JSC.

"We got a view of the Inflatable Antenna passing overhead," said Bill McArthur, spacecraft communicator on duty Tuesday as the IAE passed over JSC. "It was the brightest orbiting object most of us have ever seen. Three minutes later we saw a faint little Spartan streaking across the sky with *Endeavour* in hot pursuit."

The IAE was expected to reenter the Earth's atmosphere Wednesday. *Endeavour* was required to use more propellant than expected to keep up with the IAE once the antenna and Spartan unexpectedly rotated. But, retrieval of the Spartan

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Mir crew performs space walk to unfurl solar array

By Barbara Tomaro

The Mir 21 crew spent a week space walking to enhance power on the Russian Mir Space Station.

Commander Yuri Onufrienko and Flight Engineer Yuri Usachev ventured outside Mir late Monday, JSC time, to conduct a five-hour space walk, their second of the mission, to move a solar array. The array, jointly developed by the U.S. and Russia, was moved from the Docking Module to the Kvant-1 module. Another space walk will be conducted today to unfurl the array. A second array built by Russian engineers and housed on the Docking Module will be attached to Kvant-1 in the fall.

Meanwhile, the Mir-21 crew has been busy performing Mir upkeep and maintenance as it prepares Priroda for science operations. Priroda is now configured so the Mir 21 crew can start to get to work.

"This week we were able to check out the Biological Technology System and it worked very well," said Mir 21 Cosmonaut Researcher Shannon Lucid.

The equipment will be used on the next few flights to support the long duration biological experiments on the Russian outpost. It will record temperatures, keep track of gas composition, provide video tape and support all the experiments being planned.

The crew spent time checking out the Microgravity

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JSC prepares for second annual open house

The center will open its gates once again on Aug. 24 to say thank you to the Clear Lake and Houston-Galveston community for its continued support.

"This area has supported JSC and the space program for the last 30 years," said JSC Director George Abbey. "We want to give them an opportunity to see, first-hand, the exciting, cutting-edge work that we are involved in here."

The 1996 Open House once again will be held in conjunction with the Ballunar Liftoff, sponsored by Space Center Houston and the Clear Lake Area Chamber of Commerce.

"The two events are a natural pairing," said Kari Fluegel, planning committee chair. "As the morning Ballunar activities wind down, the open house activities get started. That gives people an opportunity to participate in both events."

In 1995, the first year for the JSC Open House, more than 70,000 people came through the center's gates.

For this year's event, 19 JSC buildings will be open for exhibits and presentations. The 1996 Open House also will feature activities at both Ellington Field and the Sonny Carter Training Facility, where visitors will have their first opportunity to see the world-class Neutral Buoyancy Lab that will be used to train astronauts for future space walks. At 201-by-102-foot and 40-foot-deep, the 6.2 million gallon pool is the largest indoor pool in the world. It took 528 cement trucks 24 hours to pour the cement for the pool and one month of constant water flow to fill the pool.

Many of the activities that were favorites during the 1995 Open House will return and be expanded this year including tours of both the old and new Mission Control Centers and the shuttle simulators in Bldgs. 5 and 35. In Teague Auditorium, the center will host a series of special presentations focusing on the accomplishments of the past year and exciting plans for the future. Special educational activities for children also are being planned, and astronauts will sign autographs

Please see **NEW**, Page 4

JSC engineers, students race solar powered cars

Fifth-grade students at Ed White Elementary School highlighted a week spent working with seven NASA engineers to design and build solar-powered model cars with a race of the models last Tuesday in the school's parking lot.

The innovative educational project, called "Solar Power Up," was sponsored by the Texas Solar Energy Society, which provided solar cells, motors, gears and other parts for the model cars. In addition to teaching students about alternate energy sources, the project teaches students to work in engineering design teams and make group engineering decisions as they construct the models.

"It was really fun for both the students and engineers," said Mike Ewert of JSC's Crew and Thermal Systems Division. "On Tuesday, the sun kept going in and out of the clouds and the kids were able to see first had how the sun powered the cars."

The seven NASA engineers assisting with the project included Ewert, Cindy Cross, Mike Rouen, Joe Kosmo, John Cornwell, Jeff Dominick and Betsy Kluksdahl. Except for Kluksdahl, all are from the Crew and Thermal Systems Division, which designs space suits, spacecraft life support equipment and spacecraft cooling equipment, among other engineering tasks. Kluksdahl works in JSC's Propulsion and Power Division, which designs spacecraft thrusters and electricity-generating systems.

Photo by Janine Ewert

From left Mike Rouen, Cindy Cross and John Cornwell of the Crew and Thermal Systems Division watch behind the start line as students race solar powered cars they design with the help of JSC engineers.

Travel Fair gives away variety of prizes

The 1996 Travel Fair was attended by more than 600 people and several went home with prizes.

"The fair was an overwhelming success," said Ginger Gibson, Employee Activities Association president.

Roundtrip airline winners were Robert Newmann of Safety, Reliability and Quality Assurance; Sally Robinson of Krug and Sandra Foerg of the Engineering Directorate.

Several employees won weekend get-a-ways including a three-days in Cozumel won by Sandra Kokosz. Other winners included Matrenia Anumele, Mary Proudy, Rich Hall from the Business and Information Systems Directorate; Claramita Haefner of the Space Shuttle Program Office; John Dusl of Flight Crew Operations; and Donald Tillian of the Engineering Directorate.